

PART IV - TECHNICAL PROVISIONS

SECTION 1

EXCAVATION, FILLING AND BACKFILLING
FOR BUILDING CONSTRUCTION

1-01 SCOPE: The work covered by this section of the specifications consists in furnishing all plant, labor, equipment, appliances and materials not furnished by the Government, and in performing all operations in connection with the excavation, filling and backfilling for building construction and for utilities systems occurring within the enclosing walls or appurtenances of buildings and to a line 5 feet beyond, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

1-02 APPLICABLE STANDARD: The following standard, of the issue listed below but referred to thereafter by basic designation only, forms a part of this specification:

American Association of State Highway Officials
Standard Method:

T 99-49 Standard Laboratory Method of Test for
the Compaction and Density of Soil

1-03 EXCAVATION:

a. General: The site indicated on the drawings shall be cleared of natural obstructions and existing foundations, pavements, utility lines and other items that would interfere with the construction operations. The excavation shall conform to the dimensions and elevations indicated on the drawings, except as specified below, and shall include trenching for utility systems to a point 5 feet beyond the building line, and all work incidental thereto. Excavation shall extend a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services and for inspection, except where the concrete for walls and footings is authorized to be deposited directly against excavated surfaces. Undercutting will not be permitted. Suitable excavated material required for fill under slabs shall be separately stockpiled as directed by the Contracting Officer.

b. Drainage: Excavation shall be performed in such manner that the area of the site and the area immediately surrounding the site for a distance of 25 feet, including slopes and ditches, will be continually and effectively drained. Excavation for inlet, outlet and diversion

ditches, as necessary, shall be performed under this section.

c. Shoring, including sheet piling, where required during excavation, shall be installed to protect workmen and the banks, adjacent paving, structures and utilities.

d. Protection or removal of utility lines: Existing utility lines that are shown on the drawings or the locations of which are made known to the Contractor prior to excavation and that are to be retained, as well as utility lines constructed during excavation operations, shall be protected from damage during excavation and backfilling, and if damaged, shall be repaired by the Contractor at his expense. Any existing utility lines that are to be retained and that are not shown on the drawings or the locations of which are not known to the Contractor in sufficient time to avoid damage, if inadvertently damaged during excavation, shall be repaired by the Contractor, and adjustment in payment will be made in accordance with paragraph SC-16 of the Special Conditions of the contract. When utility lines that are to be removed are encountered within the area of operations, the Contractor shall notify the Contracting Officer in ample time for the necessary measures to be taken to prevent interruption of the service.

e. Excess material from excavation, not required for fill or backfill, shall be wasted where directed by the Contracting Officer and shall be graded.

f. Topsoil shall be removed, to a depth of 4 inches, from the area within lines 25 feet outside foundation walls, and shall be piled as directed by the Contracting Officer.

g. Blasting: The Contracting Officer shall be the judge as to the necessity for the use of explosives. When rock excavation requires blasting, the Contractor shall exercise care not to overshoot, and shall be required to remove, at its own expense, any material outside the authorized cross-section which may be shattered or loosened by such blasting.

h. Grading: Areas required to be graded shall be constructed true to grade, shall be shaped to drain, and shall be maintained free from extraneous accumulations until final inspection has been completed and the work has been accepted.

1-04 FILL: Where concrete slabs are to be placed on earth, any loam or organic or other unsuitable material shall be removed. Fill, where required to raise the subgrade for concrete slabs to the elevations indicated on the drawings, shall consist of crushed stone, sand, gravel or earth. Fill shall be compacted by a power roller or other approved equipment, and the subgrade brought to a reasonably true and even

plane. Crushed stone, sand or gravel used for fill shall be placed in layers not more than 12 inches thick. Earth used for fill shall be placed in layers not more than 8 inches and then compacted to 95 percent of maximum density obtained at the optimum moisture content as determined by the A.A. S.H.O. Standard Method T 99.

1-05 BACKFILLING: After completion of foundation footings, foundation walls, piling and other construction below the elevation of the final grades, and prior to backfilling, forms shall be removed and the excavation shall be cleaned of trash and debris. Backfill shall consist of the excavation, borrow of sand or gravel, and shall be free of trash, lumber or other debris. Backfill shall be placed in horizontal layers not more than 9 inches thick, and shall have a proper moisture content for the required degree of compaction. Each layer shall be compacted by hand or machine tampers or by other suitable equipment to a density approximating that of the adjacent undisturbed soil. Backfill under concrete floor slabs shall be compacted to the density specified hereinbefore for fill. Backfill shall be brought to a suitable elevation above grade to provide for anticipated settlement and shrinkage thereof. Backfill shall not be placed against foundation walls prior to 7 days after completion of walls and then only after approval by the Contracting Officer. Backfill shall be brought up evenly on each side of the wall as far as practicable. Heavy equipment for spreading and compacting backfill shall not be operated closer to the wall than a distance equal to the height of the backfill above the top of footing.